

October 31, 2002

MEMORANDUM TO: Christopher I. Grimes, Director  
Policy and Rulemaking Program  
Division of Regulatory Improvement Programs, NRR

FROM: Peter C. Wen, Project Manager */RA/*  
Policy and Rulemaking Program  
Division of Regulatory Improvement Programs, NRR

SUBJECT: SUMMARY OF OCTOBER 22, 2002, MEETING WITH NUCLEAR  
ENERGY INSTITUTE REGARDING POST-FIRE SAFE SHUTDOWN  
ANALYSIS

On October 22, 2002, the NRC staff held a public meeting with the Nuclear Energy Institute (NEI) to discuss the resolution document for NEI 00-01, "Guidance for Post-Fire Safe Shutdown Analysis." Meeting attendees are listed in Attachment 1. Handouts used by NEI during the meeting are included in Attachment 2.

Since 1998, there have been extensive interactions between the staff and industry groups on the issue of potential fire-induced electric circuit failures that could prevent operation or cause malfunctioning of equipment needed to achieve and maintain post-fire safe shutdown. The issue centers around different interpretations between the staff and industry groups on the criteria for performing post-fire safe shutdown analysis. In order to help resolve this issue, NEI formed a Circuit Failures Issue Task Force to develop a risk-informed approach for resolving circuit failure issues. This approach included performing fire tests and developing criteria for post-fire safe shutdown circuit analysis. NEI provided the staff with a copy of NEI 00-01, "Guidance for Post-Fire Safe Shutdown Analysis," Draft Revision C (ADAMS Accession Number: ML012950385) on October 18, 2001. The staff reviewed the NEI document and provided detailed comments to NEI on March 6, 2002 (ADAMS Accession Number: ML020660025). The purpose of the October 22 meeting was to provide an opportunity for the industry representatives to brief the staff on the content of the revised NEI document (i.e. NEI 00-01, Draft Revision D, submitted on October 15, 2002) and to seek the staff's feedback on identifying any remaining issues that need to be resolved.

Fred Emerson, NEI, gave a presentation that covered the subjects of NEI 00-01 purpose, structure, recent changes, and its intended application. He stated that the current version (Draft Revision D) of NEI 00-01 (ADAMS Accession Number: ML023010376) updates the previous version (Draft Revision C) to reflect: NEI responses to NRC March 6 comments, completion of a draft Electric Power Research Institute (EPRI) fire test report, completion of EPRI expert panel report on spurious actuation probabilities, completion of draft report on NEI 00-01 method pilot evaluations (McGuire and Duane Arnold), and completion of additional analysis related to multiple high impedance faults.

NEI stated that the purpose of NEI 00-01 is to provide both deterministic and risk methods for addressing potential fire-induced circuit failures, either within or beyond the existing plant licensing basis. The major concept of this NEI approach is to use the risk-informed methods to determine the risk significance of an identified issue, instead of arguing whether it is within the licensing basis or not. If the issue is found to be not safety significant, then it will be screened out from further consideration. The staff agreed that risk-informed methods could be used to address fire-induced circuit failure issues. However, the staff expressed concern that many important issues may be inadvertently screened out in light of high uncertainty associated with risk analysis and huge variation in licensing basis. NEI replied that those screened out items will be subjected to additional review of safety margin, defense-in-depth, and uncertainty analysis.

Based on the industry experience and EPRI fire test results, NEI discussed the subject of certain areas that are deemed as not credible and are to be eliminated from further licensee consideration. These areas are described in slides 13 to 16 of Attachment 2. Rather than merely focus on areas of exclusion from licensee consideration, the staff asked NEI to identify generic circuit analysis concerns that have the potential to be of high risk significance. NEI agreed to consider the NRC request, but stated that NEI had not seen high significance scenarios in the fire testing or in the pilot evaluations.

Continued interaction between NEI and the staff on this issue is anticipated. Currently, the staff plans to have a workshop sometime in the December-January time frame. Having completed discussion of the agenda items, the group adjourned.

Project No. 689

Attachments: As stated

cc w/atts: See list

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**ADAMS Accession Number: Package ML023040183**

**Memo: ML023040162**

**Attachment 2: ML022960500**

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Project No. 689

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**NRC/NEI MEETING ON POST-FIRE SAFE SHUTDOWN ANALYSIS**  
**LIST OF ATTENDEES**  
**October 22, 2002**

<u><b>NAME</b></u>	<u><b>ORGANIZATION</b></u>
John Hannon	NRR/DSSA/SRLB
Eric Weiss	NRR/DSSA/SRLB
Mark Salley	NRR/DSSA/SRLB
Daniel Frumkin	NRR/DSSA/SRLB
Peter Wen	NRR/DRIP/RPRP
Fred Emerson	NEI
Tom Gorman	PPL Susquehanna
Dennis Henneke	Duke Energy
Tom Hayes	Westinghouse
Roger Huston	Licensing Support Services